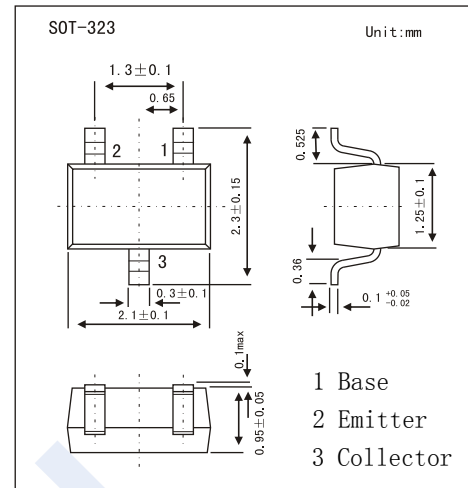


NPN Transistors

2SD1820A

■ Features

- Low Collector-to-Emitter Saturation Voltage
- Complementary to 2SB1219A



■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	60	V
Collector - Emitter Voltage	V_{CEO}	50	
Emitter - Base Voltage	V_{EBO}	5	
Collector Current - Continuous	I_C	0.5	A
Collector Current - Pulse	I_{CP}	1	
Collector Power Dissipation	P_C	150	mW
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to 150	

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CBO}	$I_C = 100\ \mu\text{A}$, $I_E = 0$	60			V
Collector- emitter breakdown voltage	V_{CEO}	$I_C = 2\ \text{mA}$, $I_B = 0$	50			
Emitter - base breakdown voltage	V_{EBO}	$I_E = 100\ \mu\text{A}$, $I_C = 0$	5			
Collector-base cut-off current	I_{CBO}	$V_{CB} = 50\ \text{V}$, $I_E = 0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 5\ \text{V}$, $I_C = 0$			0.1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 300\ \text{mA}$, $I_B = 30\ \text{mA}$		0.35	0.6	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = 300\ \text{mA}$, $I_B = 30\ \text{mA}$			1.2	
DC current gain	$h_{FE(1)}$	$V_{CE} = 10\ \text{V}$, $I_C = 150\ \text{mA}$	85		340	
	$h_{FE(2)}$	$V_{CE} = 10\ \text{V}$, $I_C = 500\ \text{mA}$	40			
Collector output capacitance	C_{ob}	$V_{CB} = 10\ \text{V}$, $I_E = 0$, $f = 1\ \text{MHz}$		6	15	pF
Transition frequency	f_T	$V_{CE} = 10\ \text{V}$, $I_E = -50\ \text{mA}$, $f = 200\ \text{MHz}$		200		MHz

■ Classification of $h_{FE(1)}$

Type	2SD1820A-Q	2SD1820A-R	2SD1820A-S
Range	85-175	120-240	170-340
Marking	XQ	XR	XS

NPN Transistors

2SD1820A

■ Typical Characteristics

